

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**INVENTORS:** 

Wellington et al.

ASSIGNEE:

Shell Oil Company

SERIAL NO.:

09/841,298

FILING DATE:

April 24, 2001

TITLE:

IN SITU THERMAL PROCESSING OF A COAL FORMATION TO

PRODUCE A MIXTURE OF OLEFINS, OXYGENATED

HYDROCARBONS, AND AROMATIC HYDROCARBONS

ATTORNEY DOCKET: 5659-06900

The date stamp of the mail room of the U.S. Patent and Trademark Office hereon will acknowledge receipt of the attached 1) Information Disclosure Statement (1 pg) w/accompanying Form PTO-1449 1 pg) and reference AA2; and 2) Return Postcard

EBM:jlp

Via First Class Mail

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**INVENTORS:** 

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Shell Oil Company

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IN SITU THERMAL PROCESSING OF A COAL FORMATION TO

PRODUCE A MIXTURE OF OLEFINS, OXYGENATED

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Via First Class Mail

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Serial No.:

Wellington, et al. 09/841, 298

Filing Date:

April 24, 2001

Title:

IN SITU THERMAL PROCESSING OF A COAL FORMATION TO

OXYGENATED OLEFINS. OF **MIXTURE PRODUCE** Α

HYDROCARBONS, AND AROMATIC HYDROCARBONS

Atty. Docket No.: 5659-06900

The date stamp of the mail room of the U.S. Patent and Trademark Office hereon will acknowledge receipt of the attached 1) Information Disclosure Statement (1 pg) 2) Form PTO-1449 (1 pg) and reference L12; and 3) Return Postcard.

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Date: 1.11-03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):

Wellington, et al.

Serial No.: Filing Date: 09/841, 298

Title:

IN SITU THERMAL PROCESSING OF A COAL FORMATION TO OLEFINS, OF **MIXTURE** 

Α **PRODUCE** 

HYDROCARBONS, AND AROMATIC HYDROCARBONS

Atty. Docket No.: 5659-06900

The date stamp of the mail room of the U.S. Patent and Trademark Office hereon will acknowledge receipt of the attached 1) Information Disclosure Statement (1 pg) 2) Form PTO-1449 (1 pg) and reference L12; and 3) Return Postcard.

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Form PTO-1449 (modified)			ATTY. D	ATTY. DKT. NO. 5659-06900/TH199			SERIAL NO. 09/841,298		
List of Patents and Publication For Applicant's Information Disclosure Statement (Use several sheets if necessary)			APPLICANT: Wellington et al.			GROUP	: 1764		
(Use several shee	ts if nec	essa N	FILING I	FILING DATE: April 24, 2001					
	FOREIGN PATENT DOCUMENTS								
EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES/NO		
	AA2	294 809	1988-12-14	EP					

EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the patent owner.



# **Electronic Information Disclosure** Statement

# IN SITU THERMAL PROCESSING OF A **COAL FORMATION TO PRODUCE A** MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC **HYDROCARBONS**

\*09/841298\* Application:

09/841298

Confirmation: 3893

Applicant(s): **Scott Wellington** 

Docket

5659-06900

Number: Group Art

Unit:

Examiner:

Unknown

( 4087130 or 4537252 or re30019 or 2623596 or 3775185 or 4524113 or 5284878 or 5767584 or

search string: 5955039 or 4091869 or 4513816 or 0094813 or 5008085 or 4099567 or 0048994 or 64852332 or

20020018697).pn.

### **US Patent Documents**

init	Citation No.	Patent Number	Date	Bar Code	Patentee	Class	Subclass
	P23	4087130	1978-05-02	*4087130*	Garrett	·	
	P24	4537252	1985-08-27	*4537252*	Puri		
	P25	re30019	1979-06-05	*re30019*	Lindquist		

P26	2623596	1952-12-30	*2623596*	Whorton et al.
P27	3775185	1973-11-27	*3775185*	Kunz et al.
P28	4524113	1985-06-18	*4524113*	Lesieur
P29	5284878	1994-02-08	*5284878*	Studer et al.
P30	5767584	1998-06-16	*5767584*	Gore et. al
P31	5955039	1999-09-21	*5955039*	Dowdy
P32	4091869	1978-05-30	*4091869*	Hoyer
P33	4513816	1985-04-30	*4513816*	Hubert
P34	0094813	1869-09-14	*0094813*	Dickey
P35	5008085	1991-04-16	*5008085*	Bain et al.
P36	4099567	1978-07-11	*4099567*	Terry
P37	0048994	1865-07-25	*0048994*	Parry
P38	64852332	2002-11-26	*64852332*	Vinegar et al.

### **Published Applications**

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Citation No.	Patent Number	Date	Bar Code	Patentee	Class Subclass
	U01	20020018697—	2002-02- 14	*2002001-869 <b>7</b> *	Vinegar-et-al.	,

### Remarks

(Remarks are not for responding to an office action.)

Please note: Foreign patent documents and non-patent references will be sent using a standard US PTO 1449 Form.

Examiner Name	Date

# **Electronic Information Disclosure Statement**

# IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC HYDROCARBONS

\*09/841298\*

Application:

09/841298

Confirmation:

3893

Applicant(s):

**Scott Wellington** 

Docket

5659-06900

Number:

**Group Art Unit:** 

Examiner:

Unknown

search string:

(3221811 or 3987851 or 4042026 or 4005752 or 5868202 or 5126037 or 3477058 or

3580987).pn.

### **US Patent Documents**

llinit	Citation No.	Patent Number	Date	Bar Code	Patentee	Class	Subclass
	P01	3221811	1965-12-07	*3221811*	Prats		
	P02	3987851	1976-10-26	*3987851*	Tham		
	P03	4042026	1977-08-16	*4042026*	Pusch et al.		
	P04	4005752	1977-02-01	*4005752*	Cha		
	P05	5868202	1999-02-09	*5868202*	Hsu		

P06	5126037	1992-06-30	*5126037*	Showalter
P07	3477058	1968-11-04	*3477058*	Vedder et al.
P08	3580987	1971-05-25	*3580987*	Priaroggia

Examiner Name	Date

### **Electronic Information Disclosure Statement**

# IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC **HYDROCARBONS**

\*09/841298\*

Application:

09/841298

Confirmation: 3893

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Scott Wellington

Docket

5659-06900

Number:

Group Art Unit:

Examiner:

Unknown

search string:

(4193451 or 4265307 or 4390067 or 4456065 or 4457374 or 4479541 or 4498535 or 4598770 or 4669542

or 4682652 or 4982786 or 5201219 or 5339904 or 3349845 ).pn.

### **US Patent Documents**

init	Citation No.	Patent Number	Date	Bar Code	Patentee	Class	Subclass
	P08	4193451	1980-03-18	*4193451*	Dauphine		
	P09	4265307	1981-05-05	*4265307*	Elkins		
	P10	4390067	1983-06-28	*4390067*	Wilman		
	P11	4456065	1984-06-26	*4456065*	Heim et al.		
	P12	4457374	1984-07-03	*4457374*	Hoekstra et al.		
	P13	4479541	1984-10-30	*4479541*	Wang		
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P14	4498535	1985-02-12	*4498535*	Bridges
P15	4598770	1986-07-08	*4598770*	Shu et al.
P16	4669542	1987-06-02	*4669542*	Venkatesan
P1 7	4682652	1987-07-28	*4682652*	Huang et al.
P18	4982786	1991-01-08	*4982786*	Jennings, Jr.
P19	5201219	1993-04-13	*5201219*	Bandurski et al.
P20	5339904	1994-08-23	*5339904*	Jennings, Jr.
P25	3349845	1967-10-31	*3349845*	Holbert et al.

Examiner Name	Date



Electronic Version v18
Stylesheet Version v18.0

Title of Invention

Title IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC HYDROCARBONS

Application Number:

09/841298

\*09/841298\*

Confirmation Number:

3893

First Named Applicant:

**Scott Wellington** 

Attorney Docket Number: 5659-06900

Examiner:

Unknown Unknown

Search string:

( 1646599 or 3952802 or 4010800 or 3892270 ).pn.

### **US Patent Documents**

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
	1	1646599	1927-10-25	Schaefer			
	2	3952802	1976-04-27	Terry			
	3	4010800	1977-03-08	Terry			
	4	3892270	1975-07-01	Lindquist			

### Remarks

Note: Remarks are not for responding to an office action.

Foreign applications and other art will be submitted on a PTO-1449 form

Examiner Name	Date



# UNITED STATES PATENT AND TRADEMARK OFFICE ACKNOWLEDGEMENT RECEIPT

Electronic Version 1.1 Stylesheet Version v1.1.1

Title of Invention

Title IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC HYDROCARBONS

Submission Type: Information Disclosure Statement

Application Number: 09/841298 \*09/841298\*

EFS ID: 40943

Server Response:

Confirmation Code	Message	
ISVR1	Successfully received the submission	
ICON1	3893	
ISYS5	Filename= N/A BusinessRule= Validation System/Function Call Information. #Supporting Msg:Server unable to validate the Confirmaton/Application numbers at this time. They will be checked by PTO personnel later.	

First Named Applicant: Scott Wellington Attorney Docket Number: 5659-06900

Timestamp: 2003-05-23 11:03:53 EDT

From: us

File Listing:

Doc. Name	File Name	Size (Bytes)
us-ids	April2001AA2_Q2-Q5-usidst.xml	1630
us-ids	us-ids.dtd	7763
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package-data	package-data.dtd	27025
package-data	us-package-data.xsl	19263
	Total files size	69592

Message Digest: f7a5077378bb205482e46e48123ab79c3532072c

Digital Certificate Holder cn=Eric B. Meyertons,ou=Registered
Name: Attorneys,ou=Patent and Trademark

Office,ou=Department of Commerce,o=U.S.

Government,c=US

Electronic Version v18 Stylesheet Version v18.0

> Title of Invention

Title IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC **HYDROCARBONS** 

Application Number:

09/841298

\*09/841298\*

Confirmation Number:

3893

First Named Applicant:

Scott Wellington

Examiner:

Attorney Docket Number: 5659-06900 unknown unknown

Search string:

( 3986556 or 4031956 or 4140180 or 4412585 or 4501326 or

4524827 or 4585066 or 4776638 or 4856587 or 5517593 or

5099918 or 5751895 or 6015015 or 6112808 ).pn.

### **US Patent Documents**

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
	1	3986556	1976-10-19	Haynes			
	2	4031956	1977-06-28	Terry			
	3	4140180	1979-02-20	Bridges et al.			:
	4	4412585	1983-11-01	Bouck			
	5	4501326	1985-02-26	Edmunds			
	6	4524827	1985-06-25	Bridges et al.			
	7	4585066	1986-04-29	Moore et al.			
	8	4776638	1988-10-11	Hahn			
	9	4856587	1989-08-15	Nielson			
	10	5517593	1996-05-14	Nenniger et al.			
	11	5099918	1992-03-31	Bridges et al.			
	12	5751895	1998-05-12	Bridges			
	13	6015015	2000-01-18	Luft et al.			
	14	6112808	2000-09-05	Isted			1

Signature	
Examiner Name	Date



### UNITED STATES PATENT AND TRADEMARK OFFICE ACKNOWLEDGEMENT RECEIPT

Electronic Version 171 Stylesheet Version v1.1.1

> Title of Invention

Title IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC HYDROCARBONS

Submission Type:

Information Disclosure Statement

**Application Number:** 

09/841298

\*09/841298\*

EFS ID:

41327

Server Response:

Confirmation Code	ion Message	
ISVR1	Successfully received the submission	
ICON1	3893	
ISYS5	Filename= N/A BusinessRule= Validation System/Function Call Information. #Supporting Msg:Server unable to validate the Confirmaton/Application numbers at this time. They will be checked by PTO personnel later.	

First Named Applicant:

Scott Wellington

Attorney Docket Number: 5659-06900

Timestamp:

2003-06-02 18:50:40 EDT

From:

us

File Listing:

Doc. Name	File Name	Size (Bytes)		
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us-ids	us-ids.dtd	7763		
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package-data	R1-R14-pkda.xml	1873		
package-data	package-data.dtd	27025		
package-data	us-package-data.xsl	19263		
	Total files size	71063		

Message Digest:

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Digital Certificate Holder cn=Eric B. Meyertons,ou=Registered Attorneys,ou=Patent and Trademark

Name:

Office,ou=Department of Commerce,o=U.S.

Government,c=US



Electronic Version v18 Stylesheet Version v18.0

Title of Invention

Title IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC HYDROCARBONS

Application Number:

09/841298

\*09/841298\*

Confirmation Number:

3893

First Named Applicant:

Scott Wellington

Attorney Docket Number: 5659-06900

Art Unit:

1764

Examiner:

Marian C. Knode

Search string:

( 3026940 or 3947683 ).pn.

### **US Patent Documents**

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
	11	3026940	1962-03-27	Spitz			0000000
	2	3947683	1976-03-30	Schultz et al.			9

Examiner Name	Date



PF

### UNITED STATES PATENT AND TRADEMARK OFFICE ACKNOWLEDGEMENT RECEIPT

Electronic Version 1.1 Stylesheet Version v1.1.1

Title of

Invention

Title IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC HYDROCARBONS

Submission Type:

Information Disclosure Statement

**Application Number:** 

09/841298

\*09/841298\*

EFS ID:

42137

Server Response:

Confirmation Code	Message
ISVR1	Submission was successfully submitted - Even if Informational or Warning Messages appear below, please do not resubmit this application
ICON1	3893
19785	Filename= N/A BusinessRule= Validation System/Function Call Information. #Supporting Msg:Server unable to validate the Confirmaton/Application numbers at this time. They will be checked by PTO personnel later.

First Named Applicant:

Scott Wellington

Attorney Docket Number: 5659-06900

Timestamp:

2003-06-19 13:41:18 EDT

From:

us

File Listing:

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us-ids	us-ids.xsl	12026	
package-data	S1-S2-pkda.xml	1872	
package-data	package-data.dtd	27025	
package-data	us-package-data.xsl	19263	
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Message Digest:

b8ceceddb50e3c712b8cdce963ea341c089677a3

Digital Certificate Holder

Name:

cn=Eric B. Meyertons,ou=Registered

Attorneys,ou=Patent and Trademark



Electronic Version v18 Stylesheet Version v18.0

Title of Invention

IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC HYDROCARBONS

Application Number:

09/841298

\*09/841298\*

Confirmation Number:

3893

First Named Applicant:

Scott Wellington

Attorney Docket Number: 5659-06900

Art Unit:

1764

Examiner:

Thuan D. Dang

Search string:

( 3032102 or 3079085 or 3454365 or 4260018 or 4683947 or 5055180 or 5626191 or 6353706 or 6467543 or 6499536 or 4734115 or 3170842 or 3618663 or 4018280 or 4698149 or

5539853 or 3691291 ).pn.

### **US Patent Documents**

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
	1	3032102	1962-05-01	Parker			
	2	3079085	1991-01-08	Clark, Jr. et al.			
	3	3454365	1969-07-08	Lumpkin et al.			
	4	4260018	1981-04-07	Shum et al.			
	5	4683947	1987-08-04	Fernbacher et al.			
	6	5055180	1991-10-08	Klaila			
	7	5626191	1997-05-06	Greaves et al.			
	8	6353706	2002-03-05	Bridges			
	9	6467543	2002-10-22	Talwani et al.			
	10	6499536	2002-12-31	Ellingsen			
	11	4734115	1998-03-29	Howard et al.			
	12	3170842	1965-02-23	Kehler			
	13	3618663	1971-11-09	Needham			
	14	4018280	1977-04-19	Daviduk et al.			

1		·		<u> </u>
	15	4698149	1987-10-06	Mitchell
	16	5539853	1996-07-23	Jamaluddin et al.
	17	3691291	1972-09-12	Taj

Examiner Name	Date

### UNITED STATES PATENT AND TRADEMARK OFFICE **ACKNOWLEDGEMENT RECEIPT**

Electronic Version 1.1 Stylesheet Version v1.1.1

> Title of Invention

IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC HYDROCARBONS

Submission Type:

Information Disclosure Statement

**Application Number:** 

09/841298

\*09/841298\*

EFS ID:

68656

Server Response:

Confirmation Message		
ISVR1	Submission was successfully submitted - Even if Informational or Warning Messages appear below, please do not resubmit this application	
ICON1	3893	
USPTOEFSNotice	For assistance with e-filing a patent application, contact the Patent Electronic Business Center: Toll-Free Number:1(866) 217-9197 Website: http://www.uspto.gov/ebc/	

First Named Applicant:

**Scott Wellington** 

Attorney Docket Number: 5659-06900

Timestamp:

2004-09-16 17:18:43 EDT

From:

us

File Listing:

Doc. Name	File Name	Size (Bytes)
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package-data	us-package-data.xsl	19263
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Message Digest:

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Digital Certificate Holder

Name:

cn=Eric B. Meyertons,ou=Registered

Attorneys, ou=Patent and Trademark



Electronic Version v18 Stylesheet Version v18.0

Title of Invention

Title IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC HYDROCARBONS

Application Number:

09/841298

\*09/841298\*

Confirmation Number:

3893

First Named Applicant:

Scott Wellington

Attorney Docket Number: 5659-06900

Art Unit:

1764

Examiner:

J. D. Johnson

Search string:

( 3017168 or 3434541 or 4598772 or 5456315 or 6789625 or

6782947).pn.

### **US Patent Documents**

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
	1	3017168	1962-01-16	Carr	]		
	2	3434541	1969-03-25	Cook et al.	]		
	3	4598772	1986-07-08	Holmes	]		
	4	5456315	1995-10-10	Kisman et al.	]		
	5	6789625	2004-09-14	de Rouffignac et al.	]		
	6	6782947	2004-08-31	de Rouffignac et al.	]		

Examiner Name	Date	



### UNITED STATES PATENT AND TRADEMARK OFFICE **ACKNOWLEDGEMENT RECEIPT**

Electronic Version 1.1 Stylesheet Version v1.1.1

> Title of Invention

Title IN SITU THERMAL PROCESSING OF A COAL FORMATION TO PRODUCE A MIXTURE OF OLEFINS, OXYGENATED HYDROCARBONS, AND AROMATIC HYDROCARBONS

Submission Type:

Information Disclosure Statement

**Application Number:** 

09/841298

\*09/841298\*

EFS ID:

71590

Server Response:

Confirmation Code	Message
ISVR1	Submission was successfully submitted - Even if Informational or Warning Messages appear below, please do not resubmit this application
ICON1	3893
USPTOEFSNotice	For assistance with e-filing a patent application, contact the Patent Electronic Business Center: Toll-Free Number:1(866) 217-9197 Website: http://www.uspto.gov/ebc/

First Named Applicant:

**Scott Wellington** 

Attorney Docket Number: 5659-06900

Timestamp:

2004-11-01 11:46:35 EDT

From:

us

File Listing:

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us-ids	us-ids.xsl	12026
package-data	el718-el721-pkda.xml	1821
package-data	package-data.dtd	27025
package-data	us-package-data.xsl	19263
	Total files size	69713

Message Digest:

c4a85a4ca7a7a0a3fc37afa69e7883b4111200ba

Digital Certificate Holder

Name:

cn=Eric B. Meyertons,ou=Registered Attorneys, ou=Patent and Trademark

ATTY. DKT. NO. 5659-06900/TH1994	SERIAL NO. 09/841,298		
APPLICANT: Wellington et al.	GROUP: 1764		
FILING DATE: April 24, 2001			
ncluding Author, Title, Date, Pertinent Pages, Etc.)			
L12 Van Krevelen, COAL: Typology-Physics-Chemistry-Constitution, 1993, pp. 27, 42, 52, 322, 323, 324, 325, 326, 526,			
	APPLICANT: Wellington et al.  FILING DATE: April 24, 2001  ncluding Author, Title, Date, Pertinent Pages, Etc.)		

EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the patent owner.